

# **DolbyRemote**

## **Installation and Operation**

P/N 91659

Issue 1

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# Chapter 1

## Introduction

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### 1.1 DolbyRemote Overview

The DolbyRemote application is used to remotely control the entire range of Dolby Laboratories Inc. Dolby Digital encoders. Key features of the software include:

- Control of several Dolby professional audio products from a single instance of the DolbyRemote application, hardware permitting.
- Off-line mode, without the presence of a unit, to create and edit parameter files. Off-line mode may be useful to demonstrate the operation of an encoder without the presence of the encoder hardware.
- Save a unit configuration in a file on a PC. Restore the unit's configuration from a saved DolbyRemote file.
- Export an encoder's configuration in human readable form in either text or HTML format.

### 1.2 DolbyLoad

The DolbyLoad application, for downloading new encoder firmware, is included with DolbyRemote as a convenience to customers. See the encoder firmware upgrade documentation for downloading instructions.

### 1.3 Requirements

#### 1.3.1 PC System Requirements

The minimum PC system requirements include a Pentium® 90 processor and either:

- Windows® 95 with 16 Megabytes of memory, or
- Windows®NT 4.0, Service Pack 3, and 24 Megabytes of memory.

Additional memory may be needed to run other applications simultaneously.

### 1.3.2 Encoder Firmware

DolbyRemote requires the following encoder firmware:

DP561	Version 6.30 or later
DP567	Version 1.50 or later
DP569	Version 1.11 or later

## 1.4 Software Installation

The DolbyRemote application is installed from two diskettes.

1. Remove any previously installed version of DolbyRemote using the **Add/Remove Program** command from the **Control Panel**.

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*It is strongly recommended that you exit all Windows programs before beginning the installation.*

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2. Insert the **DolbyRemote Software Install Disk 1** into the computer.
3. Click **Start** and **Run**.
4. Browse to the DolbyRemote diskette. Select **setup.exe** and click **OK**.
5. Please read the *Limitation of Liability* and *Welcome* screens before proceeding with the installation.
6. The default installation destination for DolbyRemote is **C:\Program Files\Dolby Laboratories**. Click **Next** to accept the default or click **Browse** to select an alternative location.
7. Use the program folder default **Dolby Laboratories** or enter an alternate folder name and click **Next**.
8. Insert the DolbyRemote Software Install Disk 2 when prompted to do so and click **OK**.
9. To use the Help files in HTML format, click **Yes**. When the update is complete click **OK**. If a previous copy of DolbyRemote has been installed this prompt may not appear.
10. DolbyRemote installation is complete.



### **Microsoft DLL Files**

If you have an older version of Windows® 95, you may see an error message about Oleaut32.dll when you launch DolbyRemote. If this occurs, download and install the *Windows Library Update* from Microsoft ([www.microsoft.com/windows95/downloads](http://www.microsoft.com/windows95/downloads)).

## **1.5 Cable Installation**

There are two types of serial interface used on Dolby products, RS-232 and RS-485. It is important to use the correct type of interface and the correct cable to ensure a reliable connection.

Each RS-232 port on a PC must be connected to a single device, however, the application can control many RS-232 ports. For example, with five free RS-232 ports on a computer, five devices may be controlled with a single instance of the DolbyRemote application.

A single RS-485 computer port may connect to several devices, provided the devices all have an RS-485 connection.

DolbyRemote is shipped with a cable for RS-232 connection between a PC and the front panel of a DP567/DP569 encoder. Connection to a PC RS-232 communications port is made with the D-9 end of the cable. The other end of the cable connects to the Remote port on the front panel of the encoder. Additional cables may be purchased from Dolby Laboratories.

RS-485 connection for the DP567/DP569 requires a separate cable, not provided. This connects to the rear panel serial port of the unit. Consult the product's users manual for RS-485 support information.

Connection between a PC and a DP561 encoder requires a standard null modem cable. The DP561 has only an RS-232 connection.

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## Chapter 2

# Establishing Communication

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### 2.1 Starting DolbyRemote

From the Windows **Start** button, select **DolbyRemote** from the folder in which you installed the DolbyRemote application. The **Open Device** window is displayed, Figure 2-1.

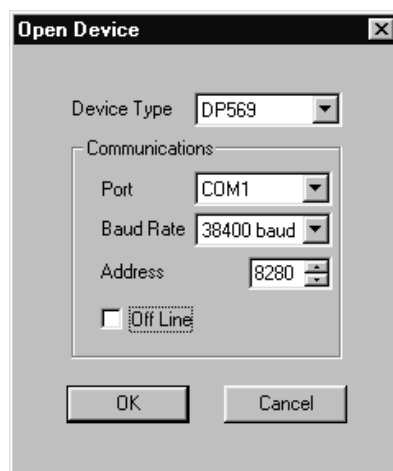


Figure 2-1 DolbyRemote Open Device Window

#### 2.1.1 Device Type

Selects the Dolby encoder model to be controlled. Choices are DP561, DP567 or DP569.

#### 2.1.2 Communications

These settings control the communication parameters for the DolbyRemote application. The corresponding parameters must be set for the appropriate PC communications port.

##### Port

Select the computer communications port to be used. DolbyRemote allows COM1 through COM10. The correct port will depend on the computer configuration.

##### Baud Rate

The communication baud rate for the DP567 and DP569 may be set to 9,600, 19,200 or 38,400. The default rate for all encoders is **38,400**. The baud rate is configurable

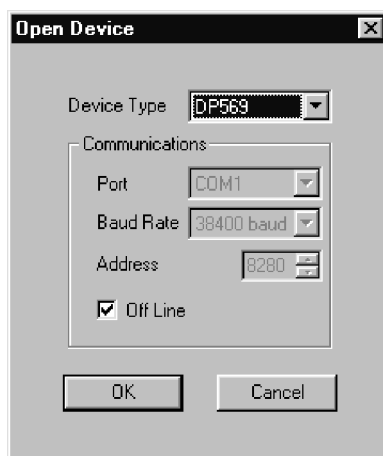
through the front panel of the encoder. The rate you select in DolbyRemote must match the rate selected in the unit.

### Address

The default address setting for the DP567 and DP569 is **0x8280**. If the address has been changed from the front panel of the encoder, set the remote address accordingly. If DP561 is selected as the **Device Type**, only the **Port** parameter may be set; **Baud** and **Address** are fixed at 38,400 and 9080, respectively.

### 2.1.3 Off-Line

The DolbyRemote application may be used off line, without the presence of an encoder. This allows configurations to be preprogrammed and stored. Off-line mode is selected by checking the **Off Line** box when opening a unit.



**Figure 2-2** Device Off Line

Once the desired parameters have been set, as described above, click **OK**. The DolbyRemote Window is displayed. When the DolbyRemote application establishes communication with the unit, it will display the unit's current settings.

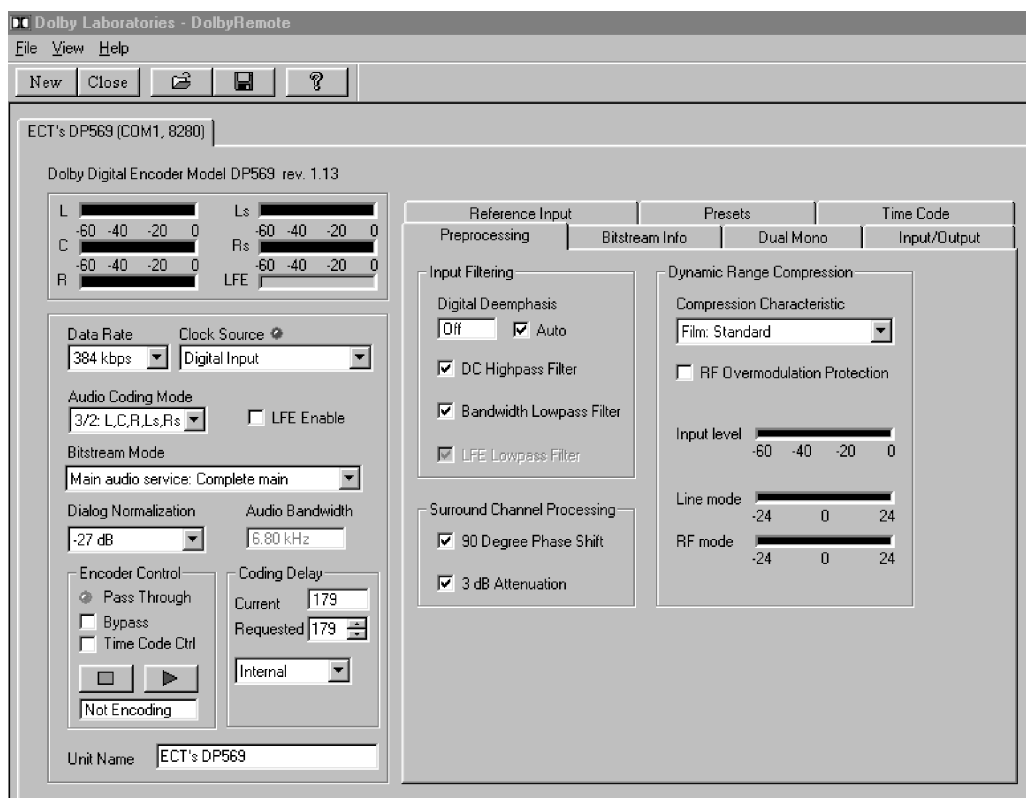


Figure 2-3 DolbyRemote Window

## 2.2 Additional Devices

The DolbyRemote application can control several Dolby professional audio products. If you have more than one device you may control them all from a single instance of the DolbyRemote application, hardware permitting.

To add additional encoders, click the **New** button or select **File, New Device**. The **Open Device** window is again displayed. See Section 2.1 for parameter details.

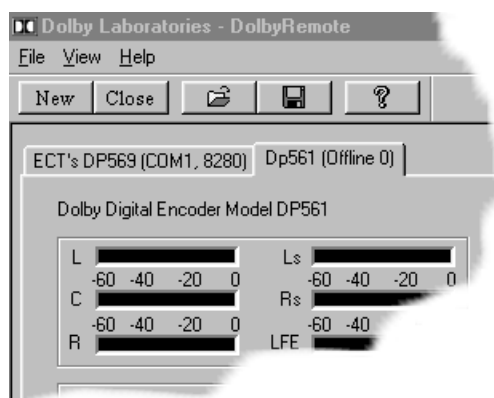


Figure 2-4 Two Encoders Controlled

## 2.3 Removing Devices

To remove, or discontinue the remote control of a device, click **Close** or select **File, Close Device**.

## Chapter 3

# Disk Files

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### 3.1 Saving and Restoring Configurations

DolbyRemote can save the configuration of the active device so that it can easily be recalled later. The file extension for these configurations is *.dby* and can only be read with DolbyRemote. Configurations can be transferred between different devices of the same type, without complication, using this function.

Configurations saved by one encoder type (DP561/7/9) can be opened by a different encoder (DP561/7/9) as long as the configuration contained within the file is valid for both devices. It is advisable, however, to confirm unit parameters when transferring files in this way, as each different encoder type has some unit specific commands. The DolbyRemote file format is different from the *Ac3Enc* (original DP561 remote) file format, so these files may not be opened in the DolbyRemote application.

Configuration files can be opened or saved from the **File** menu, or from buttons on the **Tool Bar**.

#### Open Configuration File

This restores the configuration of the saved file into the current device.

#### Save Configuration File

This saves the current device configuration to a file.

### 3.2 Exporting Configurations

Export file gives two different options for saving the current configuration as a file that can be read and printed outside of the remote software. It is not possible to use these file types to configure a unit. You may export the current settings in either a text file or an HTML file. You should be able to view and print the HTML file with any standard web browser.

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## Chapter 4

# Dolby Digital Parameters

This chapter briefly describes each of the parameters available in the windows of DolbyRemote. It is designed as a quick reminder for experienced users or as an introduction for new users rather than the full explanation that will be required. Detailed information about each encoder setting can be found in the relevant encoder user's manual or in the pages of the *Dolby Digital Professional Encoding Manual*.

### 4.1 Audio Service Parameters

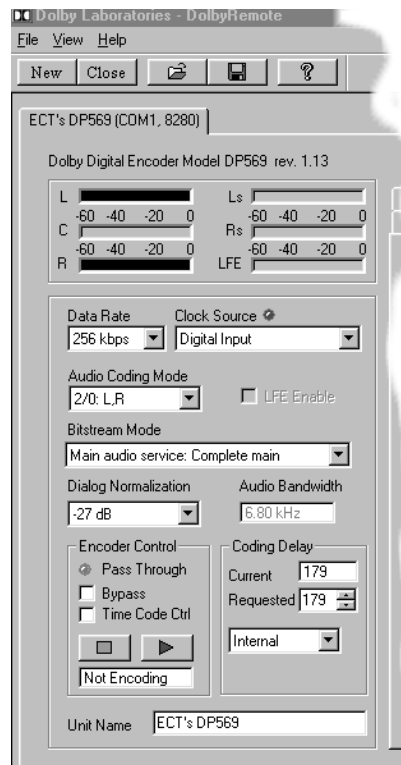


Figure 4-1 Audio Service Parameters

#### 4.1.1 Input Meters

**Input Meters** show the input level of the channels enabled in the current encoding mode in dBFS.

### 4.1.2 Data Rate

**Data Rate** determines the bit rate of the encoded Dolby Digital bitstream. All data rate options are allowed, however, selection of the data rate is dependent on the settings of the **Audio Coding Mode**, **Sample Rate** and **Auxiliary Data** parameters. Certain low data rates may not be supported in all channel modes. For example rates 56, 64 and 80 kbps are only supported in 1/0 channel modes.

### 4.1.3 Clock Source

**Clock Source** is a parameter that specifies the reference clock source for the encoding process as well as the reference for the output signal. The encoder will not produce a valid output signal if a clock source is not present. A green indicator is present for a valid source, a red indicator will be present for an invalid source. There are three types of clock sources:

- **Digital Input**: a valid AES/EBU signal must be present at the **Dig In 1/2** input.
- **Ref In**: a valid AES/EBU signal must be present at the **Ref In** input.
- **Internal** (48, 44.1 or 32 kHz): always valid when selected.

**Dig In 1/2** is the only input that may function as both an **Input Source** and **Clock Source** simultaneously.

The clock source setting also controls the state of the internal sample rate conversion (SRC). SRC is disabled for the **Digital Input** and **Ref In - SRC Off** settings. SRC is enabled for the **Ref In - SRC On** and **Internal** clock source settings.

There are some restrictions on the clock source selection that are enforced by the DolbyRemote application:

- If **Ref In-SRC On** or an **Internal** clock source is selected the current **Input Format** must be PCM.
- If **Digital Input** or an **Internal** clock source is selected, the **Multiplex Mode** must be disabled.
- If **Internal 32 kHz** is selected the output mode must be **Professional 32-bit** or the **Data Rate** must be less than 448 kbps.
- If an internal clock source is selected, the frequency must be consistent with the coding delay and the auxiliary data input selection. See the DP567/DP569 user's manual for details.

### 4.1.4 Audio Coding Mode

**Audio Coding Mode** defines the number of full-bandwidth audio channels within the encoded bitstream and also indicates the channel format. The audio coding mode is

designated as two numbers, A/B, with A indicating the number of front channels, and B indicating the number of rear (surround) channels.

The following table lists all eight modes and defines which input channels are used for encoding based on the selected mode. Channel names are designated as follows: Left (L), Right (R), Center (C), Left Surround (Ls), and Right Surround (Rs). Note that the Ls channel is the surround source for modes having a single surround channel (2/1, 3/1). In the case of mode 1+1, two completely independent program channels can be sourced from the L and R inputs (dual mono) and encoded into the output bitstream. 1+1 mode is not suitable for DVD or DTV applications.

The **Audio Coding Mode** options available for the DP567 are 1+1 Dual Mono, 1/0 Mono and 2/0 Stereo.

**Table 4-1** Audio Coding Modes

Audio Coding Mode	Encoded Channels
1+1 (Dual Mono)	L, R
1/0 (Mono)	C
2/0 (Stereo)	L, R
3/0	L, C, R
2/1	L, R, Ls
3/1	L, C, R, Ls
2/2	L, R, Ls, Rs
3/2	L, C, R, Ls, Rs

#### 4.1.5 LFE Enable

**LFE Enable** determines whether the low frequency effects channel is enabled. This is dependent on the setting of the audio coding mode and is only active with coding modes greater than two channels. This option is also not available on the DP567.

#### 4.1.6 Bitstream Mode

**Bitstream Mode** is an informational parameter that indicates the data information service of the encoded Dolby Digital bitstream. It does not affect internal Dolby Digital encoding.

#### 4.1.7 Dialog Normalization

**Dialog Normalization** allows the user to set the value of *dialnorm*, a parameter that tells the decoder how much the average dialogue level of the encoded audio is below digital full scale. The decoder uses this to normalize the replay level. This means

many different program types, with different reference levels, can be encoded with full dynamic range and then be decoded to give a uniform loudness level.

### 4.1.8 Audio Bandwidth

**Audio Bandwidth** displays the current audio bandwidth of the main channels. This is dependent on the number of channels being encoded and the data rate.

### 4.1.9 Encoder Control

#### Pass Through

**Pass Through** indicates if the unit is in pass through mode. **Pass Through** mode allows the encoder to pass pre-encoded inputs to the main digital output either as a single bitstream or as part of a multiplexed bitstream. A valid clock source must be present when this mode is enabled.

#### Bypass

**Bypass** is typically used to route the output of a secondary (standby) encoder to the switched audio output of the primary encoder. To enable this function, the **Bypass In** connector of the primary encoder must be linked to the **Main Out** connector of the secondary (standby) encoder. **Bypass Mode** routes the **Bypass In** source directly to the **Switched Output** of the primary encoder. When **Bypass Mode** is disabled, the **Main Output** is routed directly to the **Switched Output**.

#### Requested Encoder State

Clicking on the **Stop** button manually disables the encoding process. Clicking the **Encode** button enables encoding to take place, if all required inputs are present. Activating **Time Code Ctrl** enables and disables the encoding process based on time code start and stop values.



**Figure 4-2** Encoder Stop and Start Buttons

Time code control can only be entered on the following conditions:

- **Input Format** is set to PCM.
- **Multiplex Mode** is disabled.
- Time code controlled preset recalls are not pending.

## Encoder State

**Encoder State** displays the status of encoding for the current device. There are three options for the encoder state:

- **Not Encoding**—the user has requested that the unit start encoding, but the encoder is unable to encode because it is missing a required input signal.
- **Encoding**—the unit is encoding
- **Stopped**—the user has directed the unit to not encode

### 4.1.10 Coding Delay

There are displays for both the requested and current coding delay values. The requested and current values may be different if the unit is unable to provide the requested delay, based on the value of other inputs.

For example, suppose the clock source is digital input, a DP569 is receiving a 48 kHz input, and the **Coding Delay** is set to 170 ms. In this case, both the requested and the actual coding delays will be 170 ms. Then the input changes to 44.1 kHz. At 44.1 kHz, the smallest legal coding delay is 195 ms. The DP569 will switch to a 195ms coding delay. The actual coding delay will display 195 ms, while the requested coding delay will continue to display 170 ms.

#### Current

**Current Coding Delay** displays the time from the first sample of a particular frame received by the encoder to the time the first word of the coded output frame appears in the output bitstream.

#### Requested

Enter a value for the **Coding Delay** in milliseconds. Any changes made to the delay setting will take place immediately by deleting output frames and/or adding gaps to the output bitstream as necessary. The minimum and maximum delay times depend on the encoder unit, DP567 or DP569, and the input sampling rate.

#### Internal/External

Select **Internal** to specify the amount of coding delay in milliseconds. If **External** mode is selected this option is grayed out and the delay is determined from the signal applied to the TTL delay input.

### 4.1.11 Unit Name

The unit may be given a name, 16 characters maximum.

## 4.2 Preprocessing

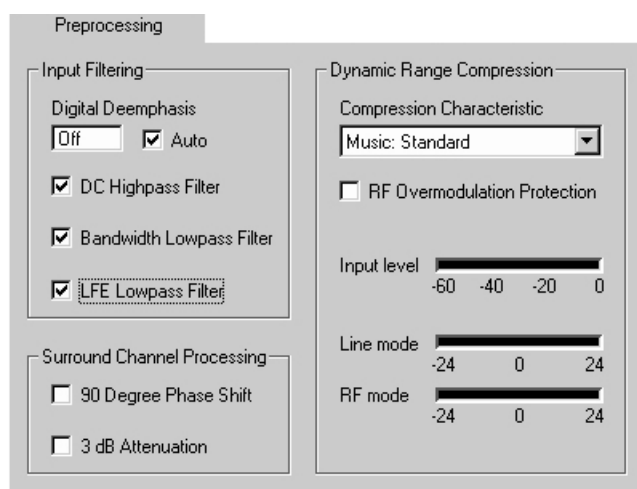


Figure 4-3 Preprocessing Tab

### 4.2.1 Input Filtering

#### Deemphasis

The **Deemphasis** parameter controls whether or not 50/15  $\mu$ s digital deemphasis may be applied to the main input channels before the Dolby Digital encoding process is performed. If **Deemphasis** is set to **Disabled**, deemphasis will never be applied and the emphasis channel status bit of input signals will be ignored. If the parameter is set to **Automatic**, digital deemphasis will automatically be applied to input signals if the emphasis channel status bit indicates 50/15  $\mu$ s pre-emphasis has been applied. The state of **Deemphasis** and the channel status bit will be ignored whenever pre-encoded bitstreams are being received, **Pass Through** mode is active.

#### DC Highpass Filter

**DC Highpass Filter** controls whether or not a DC blocking 3 Hz highpass filter is applied to the main channel inputs before the Dolby Digital encoding process.

#### Bandwidth Lowpass Filter

**Bandwidth Lowpass Filter** controls whether or not a bandwidth limiting lowpass filter is applied to the main input channels before the Dolby Digital encoding process.

#### LFE Lowpass Filter

**LFE Lowpass Filter** controls whether or not a 120 Hz lowpass filter is applied to the LFE channel before the Dolby Digital encoding process. This parameter is ignored if the LFE channel is disabled. This parameter is not available on the DP567.

## 4.2.2 Surround Channel Processing

### 90 Degree Phase Shift

**90 Degree Phase Shift** controls whether or not a 90-degree phase shift is applied to the surround channel(s) before the Dolby Digital encoding process. Its use enables decoders to create a Dolby Surround compatible two-channel downmix. This parameter is disabled if the encoding mode does not include any surround channels. This parameter is not available on the DP567.

### 3 dB Attenuation

**3 dB Attenuation** controls whether or not the surround channel(s) are attenuated by 3 dB before the Dolby Digital encoding process. This allows material mixed in a room calibrated film style (left and right surround channels are calibrated –3dB with respect to the front channels) to be converted to video style calibration (all channels are calibrated to the same level) by attenuating the surround channel(s) by 3 dB. This parameter is disabled if the encoding mode does not include any surround channels. This parameter is not available on the DP567.

## 4.2.3 Dynamic Range Compression

Dolby Digital has the ability to transmit full dynamic range audio for some listeners as well as additional information which instructs a decoder on how to reduce the dynamic range for others. For example, some people will want a reduced dynamic range for late night listening, or because they have a smaller replay system. The choice of **Compression Characteristic** and **Dialog Normalization** parameters as well as the program material control the generation of this extra data.

### Compression Characteristic

**Compression Characteristic** selects the compression characteristic that will be applied to the encoded Dolby Digital bitstream. The encoder includes six dynamic range compression modes that correspond to commonly used compression settings. Any mode can be selected at any time. The compression modes apply only to the encoded signal and are not applicable when the **Pass Through** mode is active. When in the **1+1 Channel Mode**, the selected **Dynamic Range Compression** applies to both mono channels. The actual compression applied to each channel, in this case, is independent, however they share the same compressor characteristics.

### RF Overmodulation Protection

**RF Overmodulation Protection** controls whether or not the Dolby Digital signal is protected against overmodulation distortion when decoded in RF compression mode and subsequently modulated onto an RF carrier. Typical applications include digital television set-top box systems in which decoded audio and video are combined into a composite RF output signal. Note that this parameter has no effect on **Line Out** or

custom compression modes. The default setting for **RF Overmodulation Protection** is disabled. This parameter is not available on the DP567.

### Input Level Meter

**Input Level Meter** shows the input signal that the compressor is using to determine the amount of boost or cut. This signal is derived by taking the largest of the individual channel signal levels and then attenuating by the *dialnorm* amount (see Section 4.1.7).

### Line Mode and RF Mode

**Line Mode** and **RF Mode** meters show the current value of the cut and boost words being included in the Dolby Digital bitstream. Red shows compression (cut) and green shows boost, calibrated in dB. Line mode represents a two-channel decoded output designed for connection to a stereo hi-fi, for example, RF mode represents a signal designed for re-modulation onto an RF carrier.

## 4.3 Bitstream Info

Bitstream Info

Bitstream Information

Center Mix Level: -3 dB

Surround Mix Level: -3 dB

☒ Copyright Bit

Dolby Surround Mode: Dolby Surround encoded

☒ Original Bitstream

Audio Production Information

☒ Info Exists

Mix Level: 80 dB SPL

Room Type: Not indicated

Figure 4-4 Bitstream Info Tab

### 4.3.1 Bitstream Information

#### Center Mix Level

**Center Mix Level** is a parameter that indicates to the decoder the nominal downmix level of the center channel with respect to the left and right channels when listening in stereo. This is only active when in 3/0, 3/1, 3/2 coding modes. This parameter is not available on the DP567.



### **Surround Mix Level**

**Surround Mix Level** is a parameter that indicates to the decoder the nominal downmix level of the surround channel(s) with respect to the left and right channels when listening in stereo. This is only active when in 2/1, 2/2, 3/1, or 3/2 coding modes. This parameter is not available on the DP567.

### **Dolby Surround Mode**

**Dolby Surround Mode** is a parameter that allows you to indicate when an encoded two-channel Dolby Digital bitstream is conveying a Dolby Surround encoded program. It causes A/V receivers to utilize Dolby Pro Logic decoding as well as Dolby Digital decoding when the material is flagged as Dolby Surround. This is only active when in the 2/0 coding mode.

### **Copyright Bit**

**Copyright Bit** is an informational parameter that indicates whether or not the Dolby Digital bitstream is protected by copyright.

### **Original Bitstream**

**Original Bitstream** is an informational parameter that allows you to indicate whether the encoded Dolby Digital bitstream is an original or a copy.

## **4.3.2 Audio Production Information**

### **Info Exists**

**Info Exists** is a flag to indicate whether the **Mix Level** and **Room Type** parameters are valid for this Dolby Digital bitstream.

### **Mix Level**

**Mix Level** is an informational parameter that indicates the peak acoustic sound pressure level during the final audio mixing session of the encoded Dolby Digital bitstream.

### **Room Type**

**Room Type** indicates the type and equalization of the mixing room used for the final audio mixing session of the encoded Dolby Digital bitstream.

## **4.4 Dual Mono**

These fields are only applied when the coding mode is set to 1+1. In this case these parameters apply to channel two.

The image shows a software configuration window titled "Dual Mono". At the top, a note states: "These fields apply to Channel 2 when coding in Dual Mono (1+1) mode." The window is divided into three main sections. The "Audio Service Configuration" section contains a "Dialog Normalization" dropdown menu set to "-27 dB". The "Dynamic Range Compression" section contains three horizontal sliders: "Input level" with values -60, -40, -20, 0; "Line mode" with values -24, 0, 24; and "RF mode" with values -24, 0, 24. The "Audio Production Information" section contains a checked "Info Exists" checkbox, a "Mix Level" dropdown set to "105 dB SPL", and a "Room Type" dropdown set to "Small room, flat monitor".

Figure 4-5 Dual Mono Tab

#### 4.4.1 Audio Service Configuration

##### Dialog Normalization

**Dialog Normalization** sets the *dialnorm* value for channel two when in **1+1 Coding Mode** only.

#### 4.4.2 Dynamic Range Compression

##### Input Level, Line Mode and RF Mode

**Input Level**, **Line Mode** and **RF Mode** meters for channel two when in **1+1 Coding Mode** only. The **Compression Characteristic** is the same as that applied to channel one in the pre-processing section.

#### 4.4.3 Audio Production Information

##### Mix Level, Room Type and Info Exists

**Mix Level**, **Room Type** and **Info Exists** are informational parameters for channel two when in **1+1 Coding Mode** only.

## 4.5 Input and Output Settings

Figure 4-6 Input/Output Tab

### 4.5.1 Input

#### Lock Status

**Lock Status** shows whether the input channels for the current coding mode have been detected and locked by the encoder.

#### Sample Rate

**Sample Rate** shows the sample rate of the digital input channels.

#### Integrity

**Integrity** shows the data integrity of the digital input channels.

#### Format

**Format** is a control parameter that allows you to choose the format of the data received from the input source. Available **Input Format** selections are:

- **PCM:** Dolby Digital encoding will be enabled. When analog is selected as the DP567 input source, the input format must always be PCM.
- **Pre-encoded:** Pass-through mode will be enabled. Pre-encoded bitstreams move through the unit, unmodified, to the output.

- **Autodetect:** Automatically detects and processes PCM and pre-encoded bitstreams. Invalid bitstreams will be assumed to be PCM data, and encoding will be enabled.

### Aux Data

**Aux Data** allows you to indicate whether the auxiliary data field is present in the encoded Dolby Digital bitstream. When present, serial data will be received from the **Aux Data Input** port and added to the auxiliary data field of the output Dolby Digital bitstream. Three data rates are supported: 1200, 2400, and 9600 bits per second. Since the addition of auxiliary data reduces the number of bits available for audio data, the allowed auxiliary data rates are limited for some Dolby Digital data rates.

Use of the **Aux Data Input** mode is restricted to the PCM input format and cannot be enabled if the **Pre-encoded** or **Autodetect Input Format** is selected. **Aux Data Input** may be used when the **Multiplex Mode** is enabled, however the auxiliary data will only be added to a bitstream encoded by the DP567 or DP569.

### Source

**Source** allows you to select between analog and digital audio input sources. Only one input source can be active at a time. This parameter is not available on the DP569.

### Channel Assignment

**Channel Assignment** allows you to determine the mapping of input sources to audio channels. Channel assignment is represented in the form A/B C/D E/F, where channels A through F are mapped to input sources 1 through 6, respectively.

For example, when the **Input Channels** parameter is set to L/R C/LFE Ls/Rs, the 1/2 input is the source for the Left and Right channels, the 3/4 input is the source for the Center and Low Frequency Effects channels, and the 5/6 input is the source for the Left Surround and Right Surround channels. This parameter is not available on the DP567.

In addition to the input channel assignment presets provided in the DP569, the DP561 also allows an arbitrary assignment of input channels.

## 4.5.2 Output

### Format

**Format** allows you to determine the mode of the AES/EBU output bitstream and to specify how the data is packed within that bitstream. The selection is either professional or consumer and 16 or 32-bit. The default parameter is **Professional 32-bit**. If **Multiplex** mode is currently enabled then it is not possible to output **Professional 32-bit** or **Consumer** modes.

### Audio Bit

**Audio Bit** allows you to set the audio bit in the output bitstream as either audio or non-audio, data. Certain AES/EBU inputs may require this to be set to audio before they will record the encoded bitstream.

### Multiplex Mode

**Multiplex Mode** allows multiple encoded bitstreams to be combined into the main digital output bitstream. When enabled, an internally encoded or pre-encoded Dolby Digital bitstream is multiplexed with other pre-encoded bitstreams contained within the reference-input signal.

The reference input signal is used as the reference bitstream for the multiplexing operation. The resulting output bitstream will be a copy of the reference bitstream with the internally encoded or passed-through bitstream added to it.

When **Multiplex Mode** is active, the DP567/9 overwrites the contents of the channel selected by the **Output** format. If the reference input contains a PCM signal, the DP567/9 overwrites the selected output channel with the internally encoded or pre-encoded bitstream but passes through the reference PCM signal on the opposite channel without modification.

**Autodetect** and **Pass Through** modes are allowed when **Multiplex Mode** is active. The following options should be selected in order to enable **Multiplex Mode**:

- The **Reference Input** must be selected as the **Clock Source**.
- **Time Code Control** must be disabled.
- The **Output** format must be set to either **Pro 16-bit Ch 1** or **Pro 16-bit Ch 2**.
- Any bitstreams detected in the **Reference Input** must have been encoded in the **Pro 16-bit** mode, and cannot be present in the same channel selected by the output format.

### Include Time Code Packets

**Include Time Code Packets** determines whether the encoded output bitstream contains the associated time code information packets.

## 4.5.3 Input Subcode Status Bits

**Input Subcode Status Bits** show the format, sample rate, emphasis and audio bit as indicated in the subcode of the digital input signal.

## 4.5.4 Test Tone Generation

**Test Tone** activates an internally generated test signal as the input to the encoding process rather than the currently selected input signal. Enabling the **Test Tone** mode

does not guarantee that a valid test tone will be produced at the output of the DP567 or DP569. Dolby Digital encoding must also be active, which requires that the selected clock source be valid. The selection of a **Test Tone** mode automatically overrides the input format settings. All other settings remain active.

### 4.5.5 Stream Number

#### Input

**Input** shows the input stream number for a pre-encoded signal present at the reference input.

#### Output

**Output** defines the stream number for the Dolby Digital output of the encoding process. The default is zero. If multiplex mode is currently active, the selected stream number cannot be identical to that of a stream currently being received.

## 4.6 Reference Input

The image shows a control panel titled "Reference Input". It is divided into two main sections. The left section, titled "Reference Input", contains three dropdown menus: "Lock Status" set to "Locked", "Sample Rate" set to "44.1 kHz", and "Integrity" set to "High". Below these is a "Stream Number" display showing a row of ten circular indicators, each with a number from 7 to 0 underneath. The right section, titled "Reference Input Subcode Status Bits", contains three dropdown menus: "Format" set to "Consumer", "Sample Rate" set to "44.1 kHz", and "Audio Bit" set to "Audio".

Figure 4-7 Reference Input

### 4.6.1 Reference Input

#### Lock Status

**Lock Status** shows whether the reference input has been detected and locked.

#### Sample Rate

**Sample Rate** shows the sample rate of the reference input.

#### Integrity

**Integrity** shows the data integrity of the reference input.

## Stream Number

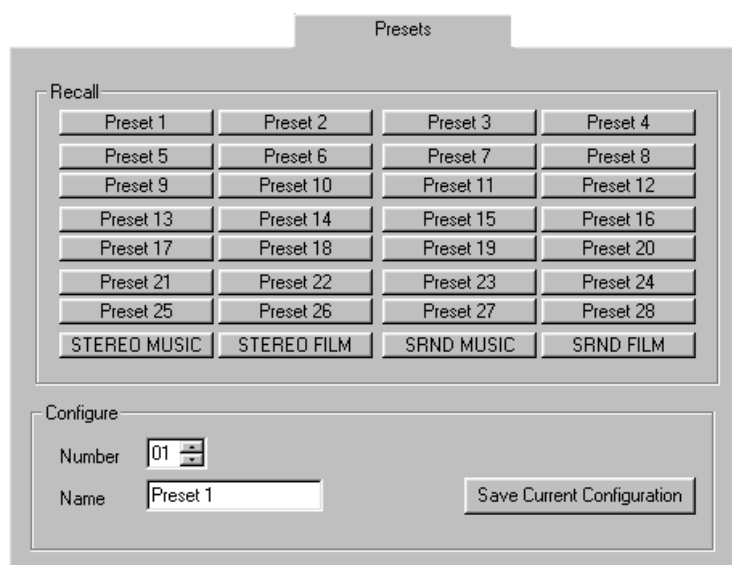
**Stream Number** shows the stream number for a pre-encoded bitstream present at the reference input.

### 4.6.2 Reference Input Subcode Status Bits

These show the format, sample rate and audio bit as indicated in the subcode of the reference input signal.

## 4.7 Presets

Presets 29 through 32 are factory defaults and cannot be overwritten.



**Figure 4-8** Presets Tab

### 4.7.1 Recall

Click on any of the 32 preset buttons to recall one of the 32 complete configurations for the encoder. These presets are stored internally within the decoder, not within the DolbyRemote application. Saved presets may be recalled from either the remote application or the front panel.

## 4.7.2 Configure

### Number

Select the number of the preset you wish to configure, **1** through **28**. Presets **29** through **32** are factory defaults and cannot be overwritten.

### Name

Enter a name, if desired, for the preset.

### Save Current Configuration

Click this button to save the current configuration in the selected preset.

## 4.8 Time Code Parameters

The screenshot shows the 'Time Code' tab of a software interface. It contains several sections: 'Input' with a 'Source' dropdown set to 'Longitudinal Time Code (LTC)' and a 'Status' field set to 'Present'; 'Preset' with 'Pending' and 'Current' dropdowns both set to 'None'; 'Current Time Code' with fields for HH (00), MM (13), SS (58), FF (19), and Format (29.97 fps); 'Start Time Code' with fields for Hour (02), Min (07), Sec (18), Frame (02), and Sample (0818); and 'Stop Time Code' with fields for Hour (03), Min (14), Sec (15), Frame (09), and Sample (0000). A 'Resume' button is located at the bottom right.

**Figure 4-9** Time Code Tab

### 4.8.1 Input

#### Source

**Source** allows you to select one of the two time code inputs for receiving time code signals **LTC** or **VITC**.



## Status

**Status** shows whether there is a valid time code signal present on the selected input.

### 4.8.2 Current Time Code

**Current Time Code** shows both the current time code value and frame rate in HH:MM:SS:FF format. If no time code input is present this box will be grayed out.

### 4.8.3 Start Time Code and Stop Time Code Values

When the **Encoder State** parameter is set to **Time Code Ctrl**, the encoder is placed in a state where the internal encoding process begins and ends at specific user definable times. The **Start Time Code** enables the encoder to wait until a specified start time occurs before encoding frames, based on the selected time code input signal. Encoding will continue, assuming all required encoding conditions are met, until **Stop Time Code** time is reached. Before the start time and after a stop time, encoded frames will not appear on the encoder output (adjusting for internal pipeline delays). This mode is used to create encoded streams of a specific length and position in time primarily for DVD authoring.

The start and stop times are specified in the format HH:MM:SS:FF:ssss where:

HH = hours (00 to 23)

MM = minutes (00 to 59)

SS = seconds (00 to 59)

FF = frames (00 to 29)

ssss = samples (0000 to 1535)

The first sample of the first encoded frame will correspond to the exact sample specified by the start time. The last sample of the last encoded frame cannot be specified because encoding must end at a Dolby Digital frame boundary. For this reason, the samples field of **Stop Time Code** is not user adjustable. Encoding will actually end at the completion of the first Dolby Digital frame following the specified stop time. At the completion of encoding the actual value of stop time, including samples, will be shown in the **Stop Time Code** display. This samples value can then be used to offset the next piece of encoded material, if necessary, to maintain A/V sync. See Section 4.8.5, Resume.

### 4.8.4 Preset

A special recall preset state allows a selected preset to be recalled at a specific time, based on the time code input. When this has been enabled, the selected preset will be considered pending until the specified time is reached, and the preset becomes active.

For instance, you might want the **Stereo Music** preset to take effect at time code 00:12:22:12.

To do this, you follow the following procedure:

1. Select the **Time Code** tab page
2. Enter 00:12:22:12 in the **Start Time Code** field
3. Select **Stereo Music** in the **Preset Pending** field.

When time code 00:12:22:12 occurs, the unit will switch to the **Stereo Music** preset. The **Preset Pending** field will display **None** and the **Current Preset** field will display **Stereo Music**.

There are a few restrictions on the recall preset on time code feature:

- Once you have selected a start time and a preset, you can't change the start time. If you want to change the start time, you must follow this procedure:
  1. Select **None** in the **Preset Pending** field.
  2. Enter the new **Start Time Code** value.
  3. Select the correct preset in the **Preset Pending** field.
- Pressing any of the preset buttons, immediately invoking a preset, cancels any pending preset
- If the unit is in **Time Code Control** mode, start and stop encoding is determined by time code, it cannot also recall a preset based on time code. In other words, the unit can either use time code to determine when to start and stop encoding, or to determine when to recall a preset, but not both.

#### 4.8.5 Resume

This button copies the **Stop Time Code** value to the **Start Time Code** value to permit seamless encoding of two sections of continuous material.

## Chapter 5

# Troubleshooting

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### 5.1 Opening a Device

If the DolbyRemote application is unable to communicate with the unit, check the following:

#### **DP569/DP567**

Make sure the unit is in remote mode (press shift-left arrow). The remote LED should be lit.

Make sure that you are either using a RS-232 connection through the front panel or a RS-485 (RS422 for DP567) connection through the rear panel.

Verify that the baud rate and device address of the unit to be controlled match the parameters given to the DolbyRemote application in the **Open Device** window. On the unit, these parameters are found in the *Operating Mode* section of the encoder setup menu.

#### **DP561**

Make sure the unit is in remote mode; press shift-C on the keyboard. The VGA screen should show that the unit is in remote mode. It is possible to program the DP561 to always boot up into remote mode. Consult the product manual for details.

Make sure you are using a RS-232 connection into COM 1 of the DP561. This must be made using a null modem cable.

#### **General**

It is possible that hardware constraints on the controlling PC can cause problems with the remote connection. Both devices transfer data continuously to update dynamic information such as meter values. If the port is using a shared IRQ with another device then it is possible that the connection may be lost. In this case using another COM port can solve the problem.

If the connection is lost the unit will continue to operate with the current set of parameters contained immediately before the connection was broken, however it is not advisable to use the unit in this way if this problem persists.

## 5.2 Further Information

If you purchased this software through a dealer or systems integrator, please contact them for technical support. Information is also available at our web site [www.dolby.com](http://www.dolby.com). Dolby Laboratories can be contacted at the following addresses:

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*8:00 am - 5:30 p.m., Monday – Friday*

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